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A.A.A.S. BULLETIN

VOL. 5 NOVEMBER, 1946 No. 11

Published monthly by the American Association for the Advancement of Science. Office of Publication, North Queen St. and McGovern Ave., Lancaster, Pa. Editorial and Business Office, 1515 Massachusetts Avenue, N.W., Washington 5, D. C., to which office all communications should be addressed.

Edited by F. R. Moulton and Howard A. Meyerhoff.
Single copy, 10 cents; annual subscription, $1.00.
Entered as second-class matter at Lancaster, Pa., March 24, 1942, under the Act of August 24, 1912.

Support of Scientific Research

All this year, until the adjournment of Congress, bills were before the Senate or the House or both for the establishment of a great Foundation for the support of scientific research and the education of talented young scientists. This proposed legislation was inspired partly by the supreme importance of science in waging war, partly in preparation for possible future wars, and partly because universities and colleges are in dire need of financial support. It is generally expected that these bills or somewhat similar ones will be introduced in the Next Congress, which will convene in January.

During the current year other developments relative to the support of science have been taking form that promise to be of the first order of importance. The Navy has established the Office of Naval Research under the direction of Vice Admiral Harold G. Bowen for the purpose of conducting fundamental scientific research under contracts with universities, colleges and other organizations having the necessary facilities and personnel. Although the program of the Navy is still in its first year, 90 contracts covering 235 projects have been entered into, involving an ultimate expenditure of approximately 17 million dollars. Of these contracts, 70 percent are with universities. The general pattern of these contracts is that the Navy defines the subject or the field to be explored and leaves entirely to the scientists of the contracting institution the problem of carrying out the necessary investigations. The Army has just set up a somewhat similar organization, the Research and Development Division of the General Staff, under the direction of Major General H. S. Aurand. At present the Army is organizing a staff of civilian scientists of high standing to administer the letting of contracts and to exercise general supervision over their execution.

There can be no doubt that these developments will have far-reaching effects upon scientific research and upon the universities and colleges of this country, and reciprocally upon our armed services. An obvious desirable consequence will be that the financial problems of our institutions of higher education will be appreciably lightened. In 1940 the total expenditures of all public and private institutions of higher education in the United States amounted to between 600 and 700 million dollars. Consequently contracts of our universities with our armed services involving 10 or 15 million dollars a year would considerably lighten the burdens of their budgets. It should be realized, however, that contracts for scientific research with the armed services do not provide funds for any use whatever, but imply large expenditures for particular projects that otherwise might not be necessary. The net financial advantages probably will be much less than those derived from the young men returning from military service.

These recently established research divisions of the Army and Navy imply that radical changes in relationship between civilian scientists and the armed services have taken place. Scientists are no longer secluded in ivory towers from which they look with disdain on the rest of the world, and the period of Brass Hats is passing with all its pomposity and absurdities. Mutual understanding between officers of the Army and Navy and civilian scientists, already far advanced by their intimate contacts during the war, will be continued and increased as a consequence of these contracts.

On the other hand, the funds used in these undertakings are supplied by the Federal Government. How easy it is to assume tacitly that money supplied by the Government does not cost anybody anything! Nearly everybody engaged in work financed from governmental funds becomes extravagant and wasteful. The expendi-

ture of large sums of money appears to inspire feelings of importance and superiority. Yet every dollar of gevernmental expenditures is ultimately derived from productive labor, and the Federal Government is already committed to providing about 260 billion dollars to liquidate its existing debts.

There is another relatively recent development in scientific research in universities and colleges that has already become of great importance for the advancement of science, for young scientists, and for our educational institutions. The industrial laboratories of the country are supporting research in our institutions of higher learning on a scale that a generation ago would have been regarded as impossible. Information on this subject has been obtained by the National Research Council in connection with its preparation of a new edition of "Industrial Research Laboratories in the United States."

The new directory of research laboratories lists 302 companies which are providing fellowships, scholarships, or grants for research, a total of approximately 1800 different contributions. In general the subsidies are for researches in which the respective companies are interested, but rarely are any severe restrictions placed on the scope of the subsidized investigations. In fact, the large degree of freedom accorded scientists in making investigations subsidized by industries has set a pattern for our military organizations in similar enterprises.

In the order of number of grants given, the fields of research supported by industrial laboratories and technical institutes are chemistry, engineering, medicine, nutrition, pharmacology, biology, and physics, with a considerable number of grants for miscellaneous researches. This distribution contains suggestions of technological interests, as might be expected, but the area between what has hitherto been known as "pure research" and technology has decreased so much that the distinction is not of much importance. In fact, the laboratories on the whole make their awards for researches on high planes comparable to those of the universities and the great foundations. This is to be expected, because the industrial laboratories are staffed by men and women from universities, and the products of their companies rest ultimately upon basic researches.

It is not possible to determine readily the total amount of the 1800 grants enumerated in the survey. They range from a few hundred dollars to tens of thousands of dollars and in many cases the amounts are not stated. The total probably exceeds 10 million dollars per year and the amount is increasing at a rapid rate. These relatively recent developments will also have important effects upon our universities and colleges.

Army–Navy Technical Session at Boston

In the first article in this issue of the *Bulletin* a brief description is given of recently developed plans of the Army and the Navy for sponsoring basic research in university and other laboratories. To throw some light on the nature and scope of these plans, a report of work already done or far under way will be made by Army and Naval officers at a General Technical Session at the Boston Meeting. The program will be presented at two half-day sessions on Friday.

It is not possible to print in the *Bulletin* complete programs of the Boston Meeting, but this particular one is given in detail because it makes clear the variety and importance of the scientific problems in which our armed forces have been and will be interested, and the many relations they must continue to have with civilians.

Morning Session

Vice Admiral Harold G. Bowen, U.S.N. Navy Research Program.

Dr. Allen T. Waterman. Nuclear Physics Research Program in the Navy.

Vice Admiral W. H. P. Blandy, U.S.N. Summary of "Operation Crossroads."

Captain Robert D. Conrad. Administration of Naval Research.

Dr. Carl Anderson. Cosmic Ray Research.

Colonel Carl E. Reichert. General Trends in the Design of Military Aircraft.

Lieut. Colonel A. P. Gagge. Human Requirements for the Design of Supersonic Aircraft.

Afternoon Session

Major General Curtis E. LeMay, Chief, Army Air Forces. Air Force Research and Development Program.

Brigadier General M. C. Grow, Air Surgeon, A.A.F. Research in Aviation Medicine.

Professor M. H. Stone, The University of Chicago. Retiring Vice President, Section on Mathematics. Science and Statecraft.

R. M. Williams, Aviation Division, Packard Motor Car Company. Theoretical Analysis of a Ducted Fan Turbo-Jet Engine.

A. L. Berger. High Temperature Ceramic Materials in Prime Movers.

A. J. Vorwald, Captain, U.S.N. Medical Corps. Medical Research.

Dr. L. C. Mead. Human Engineering.

Shortage of Teachers in Public Schools

Among all the shortages in the United States today, that of teachers in our public schools is perhaps the most fundamentally serious for the future of the country and appears least likely to be remedied. To a degree never previously approached in this country, or perhaps elsewhere in the world, the development of the young as biological, intelligent and social beings is in the keeping of our public schools. Except in rural districts, the home is becoming more and more, for children, a place to eat and sleep, without duties or responsibilities. The discipline of daily tasks and the maturing effects of productive labor are generally lacking in most urban homes. To the schools is largely left the problem of developing worthy citizens of a great democracy.

It is a tragedy that a shortage of teachers in public schools has increased as the disciplinary activities of the home have declined, largely as an indirect consequence of the changes in ways of living our technology has produced. Even before the outbreak of the war, office work and technological tasks were becoming more attractive to both men and women than teaching in our schools. It is estimated that during the war 350,000 public school teachers, out of a total of about 900,000, abandoned their profession and they are not returning. To offset the loss, classes were increased in size, courses were abandoned, and more than 100,000 teachers who could not meet legal requirements were employed. For twenty years before the war approximately 90,000 women were enrolled as full-time students in teachers colleges. Now the enrolment is less than 60 percent as great. In the case of men, the percentage decrease in those preparing to become teachers is much larger. Enrolments in colleges have increased, perhaps temporarily, to unprecedented heights, but the enrolments in teachers colleges have had no corresponding expansion.

The decline in interest in elementary and secondary education is astounding at a time when one of the important problems engaging the attention of the Government and citizens alike is that of making plans for the expenditure of billions of dollars for scientific research and the development of technology. Few inquire how so great a scientific structure can be erected on so weak and crumbling a foundation as our poorly supported public school system. The talk is about better food, better housing, better clothing, living longer, flying faster, and visiting the moon, but little about the moral qualities that have been the highest glories of all the civilizations that have flowered on this earth.

An explanation often given for the decline of interest in teaching as a profession is that teachers in the public schools receive too low pay. The explanation is certainly correct in part, for at present a girl after a few months of preparation for office work can get more pay than an equally intelligent young woman who has graduated from a teachers college. In 1940 there were 875,000 teachers in the elementary and secondary public schools of the United States and their average yearly salary, including principals and supervisors, was $1,441. Although their pay is now somewhat higher, it has not increased relatively as much as that for commercial work.

It is sometimes stated that the cost of elementary and secondary schools in the United States is a burden so heavy it cannot be greatly increased. In 1940 the salaries of all the teachers in these schools in the United States amounted to $1,314,000,000, and the total cost of operating the schools was $2,444,000,000. The amounts are so large as to be incomprehensible. But in the same year the total Federal tax alone on liquors and tobacco was $1,232,000,000, or almost as much as the total pay of the teachers. If the state and local taxes were added the amount would probably exceed the total cost of elementary and secondary schools in the entire country.

Higher pay to teachers would certainly be helpful. But the real difficulty is that the schools are no longer one of the chief interests of the people of this country. We place luxuries above things that will bring us much greater happiness. Let us not talk about security and military might and strength while we hold our schools and the ideals they represent in lower esteem than the luxuries on which princely sums are being spent.

Science in General Education

The atomic bomb has underlined John Dewey's statement that the "future of our civilization depends upon the widening spread and the deepening hold of the scientific habit of mind." The dispassionate, objective pursuit of truth and the unbiased non-emotional evaluation of facts were never more important than in this age when scientific achievement seems to have outstripped man's power to control and direct himself in relation to the requirements of civilization. Not only educators but lay people everywhere are concerned about the character of the output from our educational institutions and by the kind of education young Americans should experience.

They recognize more and more, as Huxley did years ago, that the whole of modern thought is steeped in science. How then can universities and colleges acquaint all young people, not just the science students, with the development of scientific ideas in relation to their cultural setting?

Section L (History and Philosophy of Science), with the cooperation of the History of Science Society and of Section Q (Education), is organizing a discussion of this problem at a symposium to be held in Boston, Monday morning, December 30, 1946. The theme of the symposium is "The Place of the History of Science in General Education." President Conant of Harvard University, long a supporter of a wider general understanding of the progress of modern science especially through an historical approach, will open the discussion. Dr. George Sarton, who for many years has been training candidates for the doctor's degree in the history of science at Harvard University, will speak on the qualifications of teachers in this field. Professor Henry E. Guerlac, since last July Professor of the History of Science at Cornell University, will speak from the point of view of a university professor on History and the Sciences, while Dr. Dorothy Stimson, Dean and Professor of History at Goucher College, will make A Case Report on the place that this subject has occupied for the past 25 years in the curriculum of a woman's college of liberal arts.

These various presentations, it is hoped, will provide sufficient material and will arouse sufficient interest to result in a challenging discussion from the floor. To ensure time for questions and discussion, there are to be only the four principal speakers. With Dr. John F. Fulton, Professor of Physiology at Yale University, as moderator in the chair, the meeting is set for what should be a useful discussion from several points of view of one of the most important problems today affecting not only education but also the very future of our civilization.—Dorothy Stimson.

Classes of Membership in the Association

The Constitution adopted at the St. Louis meeting last March 27 lists five classes of members in the Association as follows: Annual Members, Life Members, Sustaining Members, Honorary Members, and Emeritus Members. The dues of all classes of members are determined by the Council of the Association.

Annual Members, as the word *annual* implies, are members who pay their dues yearly. All of the 30,000 members of the Association, except about 600 life members, are annual members. Each of them receives with his membership a subscription for either *Science* or *The Scientific Monthly*, at his option. He may obtain both *Science* and *The Scientific Monthly* by paying $3.00 in addition to his dues. For almost five years each member has been receiving also the *A.A.A.S. Bulletin* without additional cost. The Association has published more than 20 symposium volumes that have been very well received by scientists in their respective fields throughout the world. Members of the Association may purchase these books at special rates to members.

Life Members are members who have made to the Trust Funds of the Association a life-membership contribution of $150. Life members have all the rights and privileges of annual members.

There were "Sustaining Members" under the old Constitution, namely those who made large contributions to the Association at one time. Under the new Constitution the Council shall determine how much the contribution shall be for a sustaining life membership. As yet the Council has taken no action on this provision of the Constitution. The Constitution provides that a Sustaining Membership shall bear the name of the founder and shall be maintained in perpetuity in trust. The first incumbent of a Sustaining Membership may be the donor or another person named by him. On the death or resignation of an incumbent of a Sustaining Membership the Executive Committee shall name another person to hold the membership throughout life.

Emeritus Members are provided for in general terms, leaving the conditions under which they shall be established to the Council. The establishment of emeritus memberships is regarded by the administrative officers of the Association as a matter of great importance. At present members who have unbroken membership records for 50 years are automatically put on the emeritus list for life. In addition, two gifts were made many years ago, the income from which provides a few emeritus memberships. What the Association urgently needs is a fund sufficient to provide emeritus memberships for all scientists who retire from teaching positions after occupying such positions for a specified number of years and having been members of the Association continuously for a specified period.

Fellows of the Association are elected by the Council from among the members either upon nomination of the section committee of a section

with which they are affiliated, or upon nomination of three Fellows of the Association. Nomination blanks can be obtained from the office of the Association, 1515 Massachusetts Avenue, N.W., Washington 5, D.C.

Hotel Rooms at the Boston Meeting

It should be stated at once that it is not expected that there will be any shortage of hotel accommodations for scientists during the Boston meeting, December 26–31. In the first place, the meeting will be held at a time when demands on hotels by business and commercial guests are at a minimum. At St. Louis last March conditions were entirely different, because the city was swarming with business men. But between Christmas and January 1 last year there were unoccupied hotel rooms even in Washington, and there were about 3,000 in Boston.

Hotels in the large cities are giving much more attention to the handling of large conventions than before the war. Instead of operating independently, they cooperate in providing meeting rooms for societies and accommodations for their members. They have learned from experience that it is of advantage to guests, as well as to themselves, to have the large problem of assigning rooms handled by a central agency under their convention bureaus.

Scientists planning to attend the Boston meeting of the Association should make their requests directly to the Convention Bureau of Boston, 80 Federal Street, Boston 10, Mass. Since the Bureau will be assigning rooms for other meetings both before and after the Association meeting, each request for a room reservation should state that it is for the A.A.A.S. meeting. The hotel in which a room is desired should be specified, the kind of room desired, and the dates of arrival and departure. Requests sent to the hotels direct will be referred to the Convention Bureau with resulting delays. Consequently the most expeditious way of obtaining a hotel room in Boston for the A.A.A.S. meeting is to communicate with the Convention Bureau. Blank forms for doing so have been printed in both *Science* and *The Scientific Monthly*.

The Boston Meeting, December 26–31

Plans for the Boston meeting are maturing according to schedule. Fifteen sections and two subsections of the Association and 35 affiliated and associated societies will present their programs at about 250 sessions, at times as many as 20 at the same hour. Something like 1500 addresses and papers will be presented during the five days of the meeting. As usual, letters are being received from individuals who offer to report the proceedings for the permanent files of the Association, apparently assuming that there will be only one session at a time.

Of the 250 sessions of the meeting, about 170 will be held in down-town Boston hotels and about 40 in the buildings of Boston University in the down-town area; 12 more are scheduled for Harvard Medical School, 16 for the Harvard University campus, and 8 for Massachusetts Institute of Technology. Care has been taken to arrange the distribution of the meetings of sections and societies so that attendance at them will require as little travel as possible. Programs in related fields are scheduled for presentation in closely neighboring buildings.

Registration headquarters will be in the Exhibition Hall near the principal hotel area in which more than three quarters of the scientific sessions will be held. The registration fee ($2) will be applied toward paying for the General Program, of which each registrant will receive a copy, as well as an Identification Badge which will be necessary for admittance to the General Sessions and to the reception following the address of Dr. Kettering, Retiring President.

The General Program will be ready for distribution about December 1. It will contain the complete programs of all the 250 sessions, including the places where they will be held, the names of the presiding officers, the names of the participants and the titles of their addresses or papers, their home addresses, summaries of all the scientific sessions and other functions by days, an index of the approximately 1500 persons who will appear on the programs, a map of Boston and its transportation systems, etc. It will not only be essentially necessary for those attending the meeting with its numerous sessions, dinners, social functions and committees, but it will be a permanent record often useful for future reference.

Membership of the Association Increases

As was announced in the October issue of the *Bulletin*, the net membership of the Association on October 1 was almost exactly 28,500. Now, on the last day of October as these words are written, the net membership of the Association exceeds 30,000.

Of all the factors contributing to this gratifying increase in membership of the Association,

the most important has been the nominations by members of their friends. When such nominations are received, as they have been received up to several thousands, letters of invitation to join the Association family are sent to the nominees. For obvious practical reasons it is impossible to name the different persons making the nominations in such large numbers, but the invitation is such that the recipients are evidently convinced that they are *bona fide*, as they are in all cases. The replies often express pleasure at the nominations and the invitation to membership.

Now that the offices of the Association are in its own home, the operating staff can take care of its business much more efficiently than when its offices were widely scattered in different buildings and on several floors. The resulting economies are very important in these times of high costs of operation. Economies are generally possible in large-scale operations, and for this reason it is hoped that members will continue to nominate their friends for membership in the Association. To do so will be in a large percentage of cases a service to the nominees, as well as to the Association. But more important than the service to the nominees or to the Association, will be the service to our civilization. These are times when organizations devoted solely to the advancement of science and the welfare of society should receive support.

From time to time parents of college and high school students have obtained membership in the Association for their children. Obviously it would not be advantageous to do so for all youths. But there are plenty of them who are interested in things far beyond the patter and pictures of the moment and who are dreaming of things beyond the horizons of their usual environment. Their exceptional qualities and their intellectual and emotional maturity should be recognized by being given membership in an organization having such high purposes as those of the Association. It is hoped that hundreds of parents will make membership in the Association one of their Christmas presents to their exceptional children.

Membership Subscriptions for Journals

Membership subscriptions for the Association's journals *Science* and *The Scientific Monthly* are for the calendar year. Therefore subscriptions for 1946 will expire with the December 27 issue of *Science* and the December issue of *The Scientific Monthly*. What happens then?

Members who have paid their membership dues for 1947 will continue to receive their journals throughout the year without interruption. However, dues may not be paid for any one of five reasons: (a) death with notice to the Association, (b) resignation, (c) death without notice to the Association, (d) intention to permit the membership to lapse without notice to the Association, (e) negligence.

In cases (a) and (b) the journals are discontinued at the end of the year. In case (c) the Association will send the first issue of the journal for 1947 and then discontinue it. In cases (d) and (e) the Association will also send the first issue of the journals for 1947 and then discontinue them. If nothing is heard from these members, their journals will be discontinued, their addressograph plates will be removed and destroyed and their names will be removed from the Master File of active members to that of past members.

Another possibility exists and it is very costly to the Association. A member who has not paid his dues will eventually notice that he is not receiving his journals. It is likely that he will then notify the office of the Association that he has not received them, ask to have the missing issues sent, and he may complain if there is delay in getting copies of the missing numbers wrapped and mailed. That is not the end of the matter, however, for a new addressograph plate must be made, the membership records must be changed, and there may be delays before the journals are being mailed by the printer. In some cases several letters are required to get everything straightened out and the expense steadily increases. It is hoped that the members of the Association will cooperate, particularly in this period of high cost of operation, in reducing such changes to a minimum.

As has been noted in an earlier issue of the *Bulletin*, in this period of readjustment there are necessarily very many changes of address. This item of expense at the present time costs the Association about $15 per day. Since these changes are necessary, all that can be asked of members is that they do not request changes of mailing addresses for short periods of time.

Meetings of A.A.A.S. Council at Boston

According to the Constitution of the A.A.A.S., "Control of all affairs of the Association is vested in the Council. . . ."

The council consists of 44 members elected by the Association and about 120 members elected by the independent societies and academies of science that are affiliated with the Association.

Since it is impossible to secure the attendance of a large percentage of the members of the Council at any meeting, some of the business of the Association is conducted by mail vote. For example, the President of the Association and other elective officers are elected by mail vote. Likewise such matters as the attitude of scientists on scientific matters of wide public interest, of which science legislation is an example, are decided by mail votes of the Council.

It is however advantageous on occasions for scientists to meet face to face and debate questions of general scientific interest. The meetings of the Council of the Association provide such opportunities. In fact, there are no other occasions in which scientists from all the principal fields of science can discuss with one another their common interests.

The first session of the Council of the Association at the Boston Meeting will be held on Thursday evening, December 26, in the Salle Moderne of the Statler Hotel. A second session of the Council will be held on Sunday evening, December 29, in the Faculty Room of University Hall, Cambridge, Massachusetts. At that meeting final actions relative to the meeting will be taken and general policies for future meetings will be considered.

The A.A.A.S. Bulletin

For almost five years the *Bulletin* has carried monthly to all members of the Association news items on current Association activities, notes on meetings, announcements of symposium publications, discussions of the organizational structure of the A.A.A.S., historical sketches of affiliated societies, and comments on various consequences of science in an increasingly complex world. The *Bulletin* has cost relatively little; in fact, only about 15 cents per year per member, but a total this year of approximately $4,000.

Partly because of the cost of the *Bulletin* at a time when the operating expenses of the Association are very high, and partly because of the shortage of paper, it has been proposed that the *Bulletin* be discontinued at the close of this calendar year, at least until conditions improve. Readers of *Science* will have noticed that several times during the past few months it has been necessary, because of lack of paper, to reduce this journal below the standard 48 pages per issue. These reductions in pages have made it necessary to omit much desirable material offered for publication, and to reduce advertising correspondingly, with the loss of several thousand dollars of needed income.

On several occasions when sufficient paper for printing the regular issues of *Science* could not be obtained, it was possible to get tinted paper for the advertising section. For practical reasons connected with the assembly of the printed sheets, the colored parts had to be put in the center of the finished journal—to the irritation of some of its readers. Since the *A.A.A.S. Bulletin* has pages of the same size as *Science* it competes with that journal for paper to the extent of two issues of the latter in a year.

The editors of *Science* and *The Scientific Monthly* have offered, if the *Bulletin* is discontinued, a page in each issue of their respective journals for announcements and news items about the operations of the Association. Consequently, the functions of the *Bulletin* will be continued, at least in part, and all members will be reached, as before, but by not precisely the same means.

Of course, the *Bulletin* may have had values that the proposed substitute for it will not replace. That question, however, is one that only those who have read the *Bulletin* can answer. Perhaps that question should be answered now so that under more favorable conditions publication of the *Bulletin* might be resumed if those who have been its readers think it desirable to do so.

Committee on Scientific Policy

The Executive Committee of the Association has appointed a standing *Committee on Scientific Policy* to promote the investigation and discussion of problems relating to the conduct and welfare of science in modern society. The Committee is to provide a common platform for the consideration of the educational, philosophical, technological, economic, and sociological foundations and implications of science. The members of the Committee are: Detlev W. Bronk, Anton J. Carlson, Reuben G. Gustavson, Thorfin R. Hogness, Albert W. Hull, Karl S. Lashley, Linus Pauling, H. Burr Steinbach, Paul A. Weiss, Chairman, Benjamin H. Willier, Sewall Wright, and Robert M. Yerkes.

The Committee has arranged a round-table discussion on "Science and the Public" for the Boston Meeting, at which Dr. James R. Angell, President Emeritus of Yale University, will preside.

Louisiana Academy of Sciences

The Louisiana-Mississippi section of the Mathematical Association of America held its annual meeting at Centenary College, Shreveport, Louisiana, on March 4 and 5, 1927. Dr. I. Maizlish, of Centenary College, who had

been looking for an opportune time for the organization of a Louisiana Academy of Sciences, considered the time of this meeting an excellent one for putting into effect such a project. The organization meeting was held on Saturday, March 5, 1927, at Centenary College. About 30 scientists were present at this meeting, but the charter membership is 57. Of these 57, 4 are deceased and 19 is affiliated with the A.A.A.S.

In 1931 the Academy was incorporated, and the objectives, as stated in the constitution are, "To unite the scientists of Louisiana, to encourage research, to urge adoption of the scientific methods of thought by our people, and to foster the application of pure science to the problems of the citizens of this State." The Academy is affiliated with the American Association for the Advancement of Science.

Membership in the organization includes: (1) Active Members—Those who are sincerely interested in the advancement of the physical, biological, social or applied sciences, particularly as they relate to the State of Louisiana. (2) Sustaining Members—Those individuals or organizations which give material aid to the advancement of the purposes of the Academy. (3) Honorary Members—Those who have made outstanding contributions to the scientific development of the State of Louisiana, and who have been unanimously elected by the Executive Council.

Since 1932, when the first volume of the Proceedings of the Louisiana Academy of Sciences was published, there have appeared 9 volumes of the official publication of the Academy, and the tenth is now in press. The papers printed in the proceedings have been presented at the annual meetings, usually held in April or May, and include addresses, papers on research and demonstrations. Beginning with Volume 6, printed in 1942, the Proceedings are sent to the various abstracting journals, and the articles printed are thus assured a much wider circulation than previously.

The officers of the Academy include a president and vice-president (elected annually) and a secretary-treasurer, editor and chairman of the four sections, Physical Sciences, Social Sciences, Biological Sciences and Junior Academy (elected biennially), and a permanent librarian and permanent secretary. These officers make up the Executive Council, which governs the Academy between the annual meetings. The Junior Academy was initiated in 1941. Its membership includes high school and undergraduate college students, and meets annually with the Academy. One chapter has been organized at Southwestern Louisiana Institute, Lafayette, with a membership of over 30 students. This chapter holds monthly meetings during the school year.

The annual dues for active members are $1.50, and include the Proceedings of the Louisiana Academy of Sciences. The Academy awards annually a medal or other mark of distinction to the person who presents the paper judged by a committee to represent the most original and most significant work presented that year. The annual award of the American Association for the Advancement of Science is given through the Academy to further research or to aid in publication of work already finished. This award is proportionate to the number of members who are also members of the A.A.A.S.

Louisiana State University, at Baton Rouge, has been made the permanent depository for the Academy publications, and the permanent Librarian of the Academy is a member of the staff of the Louisiana State University Library.—H. Bruce Boudreaux, *Secretary-Treasurer.*

Membership in the Association

Eligibility for Membership

Membership in the Association is open to all persons engaged in scientific work, whether in the fields of the natural or the social sciences; to all amateur scientists, whatever their special interests; and to all who desire to follow the advances of science and its effects upon civilization. Members having made substantial contributions to the advancement of science are eligible for election as fellows.

Dues and Publications

Membership dues are $5 per year, including subscriptions for the monthly A.A.A.S. Bulletin and either the weekly journal *Science*, now in its 104th volume, or *The Scientific Monthly*, now in its 63rd volume. *Science* is a journal for professional scientists; the *Monthly* is a nontechnical journal for the intelligent public. The Association also publishes technical symposia and nontechnical books on science that are available for members at prices substantially below those to the public.

Organization and Meetings

The Association was founded in 1848, with an initial membership of 461. Papers in its early programs were classified as either natural philosophy or natural history. Now its work is organized under 16 sections and 200 associated societies having a total membership of over 500,000. Its annual meetings are the greatest regular gatherings of scientists in the world.

Nominations and Applications for Membership

Members may submit nominations for membership at any time, and persons desiring to become members can obtain membership application forms from the Office of the Association, 1515 Massachusetts Avenue, N.W., Washington 5, D. C.

Changes of Address

New addresses for the Association's record and for mailing the journals *Science* and *The Scientific Monthly*, as well as the A.A.A.S. Bulletin, should be in the Office of the Administrative Secretary, Washington 5, D. C., at least two weeks in advance of the date when the change is to become effective.

Officers of the Association

President, James B. Conant; *Administrative Secretary*, F. R. Moulton; *General Secretary*, Otis W. Caldwell; *Treasurer*, W. E. Wrather.

Executive Committee: Charles F. Kettering, *Chairman;* Otis W. Caldwell, Anton J. Carlson, Arthur H. Compton, James B. Conant, Burton E. Livingston, Kirtley F. Mather, Walter R. Miles, F. R. Moulton, Fernandus Payne, and Elvin C. Stakman.